

TM

MADE IN CHINA

OSXL450
Infrared Non-Contact Thermometer

User's Guide

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INFRARED
NON-CONTACT
Thermometer



Introduction

Compact rugged and easy to use. Just aim and push the button, read current surface temperatures in less than a second. Safety measure surface temperatures of hot or hard to reach objects.

How it works

Any object radiates infrared energy if its temperature is above absolute zero. This energy travels at the speed of light in all directions. An infrared thermometer lens collects and focuses the infrared energy into a sensor. The sensor produces a small voltage output, indexed to the target temperature, which is processed and displayed.

Cautions

The infrared thermometer should be protected from the following:

1. Electromagnetic Fields (created by arc welders induction heaters and similar items.)
2. Thermal Shock (caused by large or abrupt ambient temperature changes. Allow 30 minutes for unit to stabliize before use.)
3. Do not leave the unit on or near objects of high temperature.

WARNING
Do not point laser directly at eye or indirectly off reflective surfaces.

AVOID EXPOSURE

DANGER

LASER RADIATION -AVOID DIRECT EXPOSURE

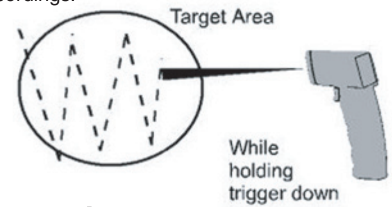
Instructions

1) Pull and hold trigger (laser pointer is on as default setting) to turn on, LCD display reading & battery icon. Release the trigger and the reading will hold for approx. 15 sec.

2) Locating a hot spot: Aim the thermometer outside the area of interest. Scan across the area in an up and down motion until the hot spot is located while holding the activation trigger. The thermometer will continue to read the surface temperature while the activation trigger is depressed.

Note

Holding the trigger at least one second when taking recordings.



Operating

Fahrenheit & Celsius Conversion: Press the °F/°C button to switch from Fahrenheit to Celsius readings.

Press the Laser ON/OFF button to turn the laser pointer on or off.

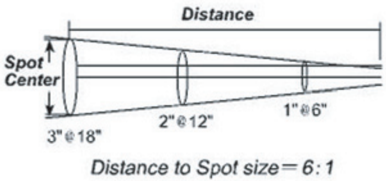
The object being tested should be larger than the spot size calculated by the field of view diagram printed in this manual or on the unit itself.

Laser Pointer

To turn the laser pointer ON, press the LASER key while pressing the Measure key. Repeat the procedure to turn the laser OFF. While the laser is on, you can switch between laser dot and circle by moving a lever in front of the optics. Laser dot is an indication of the center of the field of view. Laser circle is an indication of the perimeter of the field of view

Field of View

The farther the thermometer is from the target the larger the target area will be. This relationship between distance and target size is normally expressed as the distance to spot, or D:S ratio. At a distance of 6 feet, the "target" spot would be 1 foot in diameter. The thermometer will display the average temperature across the target area.

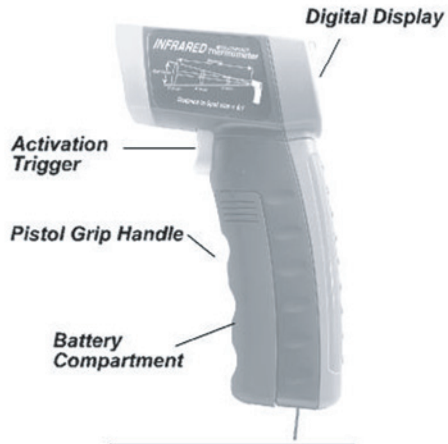


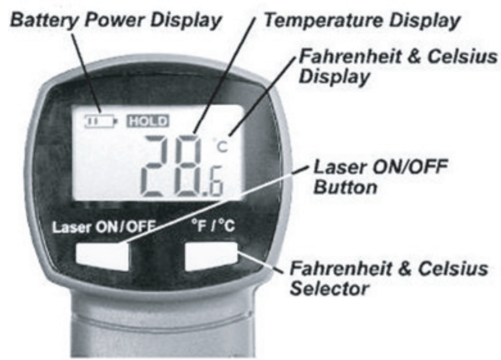
Emissivity

Most organic materials and painted or oxidized surfaces have an emissivity of 0.95. This unit is preset at 0.95. Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate, cover the surface to be measured with masking tape or flat black paint. Measure the tape or painted surface when the area has reached the same temperature as the material underneath.

Maintenance

To clean the lens: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a moist cotton cloth.
Do not use solvents to clean the lens.
Do not submerge the unit under water.





U.S. PAT. B1 5,368,392; 5,524,984; 5,727,880; 5,823,678; 5,823,679; 6,123,453; 6,267,500 B1; 6,341,891 B1; 6,377,400 B1; 6,540,398 B2 ; 6,614,830 B1; 6,633,434 B2; 6,659,639; 6,901,089 B1, 7,052,175 / Canada 2,114,806; 2,317,734 / France 2 756 920; 2 767 921; 2,773,213; 2 773 214 / Germany G 94 22 197.9; G 94 22 203.7, 19828454/ Holland 1007752; / U.K. Registered 2,237,493; 2,320,324; 9726133.3 / EPO 0 644,408 B2; EPO 1 085 307 A1, EPO 1 065 484 B1, EPO 1 065 483 B1.
Other U.S. and International Patents Pending.

Specifications

Temperature Range	-20° to 320°C (-4° to 608°F)
Accuracy	±3°F (±2°C) or 2% reading
Repeatability	2% or 3°F
Response Time	500mSec, 95%
Spectral Response	7-18 um
Emissivity	0.95
Ambient Operating Range	6° to 40°C (32° to 105°F)
Relative Humidity	10-95% R H noncondensing @ up to 30°C (86°F)
Storage Temp	-20 to 65°C (-4° to 150°F) without battery
Weight	0.33 lb.
Dimensions	6.3 X 3.54 X 1.7"
Power	9V
Battery Life	12 hrs. - laser on
Distance to Spot	6:1

1. Be sure to consider distance to spot size ratio and field of view when using this unit.
2. Always wear eye protection when using tool.
3. Do not operate the thermometer around explosive gas, vapor, or dust.

DISPOSAL OF THIS ARTICLE



Dear Customer,
If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled.
Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in you area.

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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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